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The Diesel Emissions Reduction Act (DERA) Program

Emissions from diesel engines—especially particulate matter (PM), nitrogen oxides (NO_x), sulfur oxides, and air toxics—have been shown to contribute to air pollution that adversely impacts public health and welfare in the United States. Since 1970, the Clean Air Act (42 U.S.C. §7401 et seq.) has required the federal government to limit these emissions, among others, from new stationary (industrial) sources and new mobile sources. In the decades since, the U.S. Environmental Protection Agency (EPA) has promulgated emission standards for a variety of source categories, including new heavy duty highway and nonroad diesel engines.

EPA's most recent set of emission standards for newly manufactured heavy duty highway and nonroad diesel engines took effect in 2007 and 2008, respectively. At the time, the standards required a 90% and 95% reduction in emission levels for PM and NO_x, respectively, over the previous standards. However, because of the long operational lives of diesel engines, millions of pre-2007 engines remain in use. According to EPA's estimates in 2016, 10 million pre-2007 diesel engines remain in use in the United States, and 1 million of those engines could still be in use in 2030. The Clean Air Act does not provide EPA the authority to set new emission standards on existing, or "legacy," diesel engines. To address concerns over legacy diesel engines, EPA began a Voluntary Diesel Retrofit Program in 2000 and a Clean School Bus Initiative in 2003, among other programs.

Congress enacted the "Diesel Emissions Reduction" program in the Energy Policy Act of 2005 (EPAct 2005, P.L. 109-58, Title VII, Subtitle G §§791-797; 42 U.S.C. §§16131-16137). It authorized EPA to administer a national and state-level grant and loan program to promote emissions reductions from legacy diesel engines. Through the Diesel Emissions Reduction program (as amended), EPA has provided loans, grants, and rebates to projects that use certified engine configurations and verified technologies, or that develop and commercialize emerging technologies, in order to replace legacy diesel engines.

Energy Policy Act of 2005

EPAct 2005 authorized $200.0 million annually for FY2007-FY2011 for the Diesel Emissions Reduction program. Of the funds appropriated, 70% were to be used for national competitive grants and low-cost loans administered by EPA, and 30% were to support loan and grant programs administered by states. Of the funds administered by EPA, the majority was to be provided for the benefit of public fleets, with not less than 90% going to projects using a certified engine configuration or verified technology and not more than 10% for the development and commercialization of emerging technologies. Of the funds administered by the states, a portion was to be allocated in equal shares to each state if all 50 states qualified. If fewer than 50 states qualified, the remaining funds were to be allocated among the qualifying states proportionally based on their population.

Under EPAct 2005, EPA was to prioritize projects that (1) maximize public health benefits; (2) are cost-effective; (3) serve areas with the highest population density and the poorest air quality; (4) include a certified engine configuration, verified technology, or emerging technology that has a long expected useful life; (5) maximize the engine's expected useful life; (6) conserve diesel fuel; and (7) use diesel fuel with a sulfur content of 15 parts per million or less.

Diesel Emissions Reduction Act of 2010

The Diesel Emissions Reduction Act (DERA) of 2010 (P.L. 111-364) amended EPAct 2005 to authorize $100.0 million annually through FY2016 and modify provisions related to the program. DERA 2010 defined *state* to include the District of Columbia and the U.S. territories. The act authorized EPA to offer rebates in addition to grants and loans to eligible entities, including any private individual or entity that owns a diesel vehicle or fleet. The distribution of funds was revised to provide not less than 95% of funds to projects using a certified engine configuration or verified technology and not more than 5% of funds for development and commercialization of emerging technologies. Under the act, EPA was to develop a simplified application process to expedite provision of funds, taking into consideration special circumstances affecting small fleet owners. The act expanded the priority given to applications that serve areas receiving a disproportionate quantity of air pollution from diesel fleets to include construction sites and schools in addition to truck stops, ports, rail yards, terminals, and distribution centers.

DERA Program Implementation

EPA's National Clean Diesel Campaign within the Office of Transportation and Air Quality administers the DERA program. In its *DERA Fourth Report to Congress* (July 2019), EPA reports that it awarded more than $629.0 million between FY2008 and FY2016 to retrofit or replace 67,300 engines in vehicles, vessels, locomotives, and other equipment. EPA estimates that the program has resulted in the reduction of emissions of NO_x by 474,700 tons, PM by 15,490 tons, and hydrocarbons by 17,700 tons over the lifetime of the affected engines. Further, EPA estimates the total present value of monetized health benefits over the lifetime of the affected engines as $19.0 billion, including up to 2,300 fewer premature deaths. EPA reports that since the inception of the program, DERA funding requests have exceeded availability by as much as 35:1 for the rebate program and 7:1 for the national grant competition.

DERA Appropriations

Table 1 presents requested and enacted EPA appropriations for the DERA program—adjusted and not adjusted for inflation (FY2019$)—for FY2007-FY2021. Funding for

DERA is provided within EPA's State and Tribal Assistance Grants appropriations account.

Table 1. DERA Appropriations: Requested and Enacted, FY2007-FY2021

($ millions; not adjusted and adjusted for inflation [FY2019$])

Fiscal Year	Requested		Enacted	
	Not Adjusted	Inflation Adjusted	Not Adjusted	Inflation Adjusted
2007	$49.50	$60.25	[a]	NA
2008	$35.00	$41.74	$49.22	$58.69
2009[b]	$49.22	$58.02	$360.00	$424.38
2010	$60.00	$70.13	$60.00	$70.13
2011	$60.00	$68.75	$49.90	$57.18
2012	$0.00	$0.00	$29.95	$33.68
2013	$15.00	$16.56	$18.91	$20.88
2014	$6.00	$6.50	$20.00	$21.67
2015	$0.00	$0.00	$30.00	$32.13
2016	$10.00	$10.62	$50.00	$53.08
2017	$10.00	$10.43	$60.00	$62.59
2018	$10.00	$10.19	$75.00	$76.45
2019	$10.00	$10.00	$87.00	$87.00
2020	$10.00	$9.81	$87.00	$85.32
2021	$10.00	$9.61	$90.00	$88.24

Source: CRS using information from the *Congressional Record*; House, Senate, conference committee reports and tables, and EPA's FY2013 Operating Plan (reflects rescissions and the sequestration).

Notes:

a. $6.90 million appropriated for Clean School Bus Initiative in FY2007.

b. FY2009 enacted includes $60.0 million plus additional $300.0 million in Title VII of Division A of P.L. 111-5, the American Recovery and Reinvestment Act of 2009.

As noted earlier, EPAct 2005 authorized $200.0 million annually for the DERA program for FY2007-FY2011. DERA 2010 authorized $100.0 million annually for FY2012-FY2016. Of note, the 2016 Volkswagen "defeat device" legal settlement included an option to use some of the funds paid by Volkswagen into a mitigation trust as a voluntary match for DERA state and tribal grants. Congress continued to appropriate funding for DERA after authorization expired. Title II of Division D of the Further Consolidated Appropriations Act, 2020 (P.L. 116-94), appropriated $87.0 million for DERA for FY2020, the same as the FY2019 enacted appropriations (P.L. 116-6). Division G, Title II of the Consolidated Appropriations Act, 2021 (P.L. 116-260), would provide $90.0 million for DERA, compared to the $87.0 million FY2020 enacted level and the President's FY2021 request of $10.0 million for DERA.

As indicated in **Table 1**, following $60.0 million requested for FY2011, the Obama Administration proposed no funding for FY2012, citing limitations associated with budget constraints. Reduced funding was requested for FY2013 and FY2014. No funding was requested for FY2015. EPA's 2015 *Justification of Appropriation Estimates for the Committee on Appropriations* stated that "while DERA accelerates the pace at which dirty engines are retired or retrofitted, pollution emissions from the legacy fleet will be reduced over time without additional DERA funding as portions of the fleet turnover and are replaced with new engines that meet modern emissions standards."

Government Accountability Office

DERA 2010 required the U.S. Comptroller General to conduct an audit of federal diesel emissions loan, grant, and rebate programs. In its report *Fragmented Federal Programs That Reduce Mobile Source Emissions Could Be Improved* (GAO-12-261, February 2012), the U.S. Government Accountability Office (GAO) responded by examining "(1) the extent of duplication, overlap, fragmentation, or gaps, if any, among federal grant, rebate, and loan programs that address mobile source diesel emissions; (2) the effectiveness of federal funding for activities that reduce mobile source diesel emissions; and (3) the extent of collaboration among agencies to fund these activities." GAO reported that "federal grant and loan funding activities that reduce mobile source diesel emissions are fragmented across 14 programs at the Department of Energy, Department of Transportation, and Environmental Protection Agency" but was unable to determine whether "unnecessary duplication exists because of limited information on program administrative costs" and whether the funding was effective, "because agencies vary in the extent to which they have established performance measures." GAO recommended that the heads of the three agencies establish a strategy for collaboration among their programs. In 2017, GAO indicated in its *Status of GAO Recommendations Made to EPA since FY2007* (GAO-17-801T, September 2017) that the recommendations made in the February 2012 report had not been implemented.

Reauthorizing Legislation

Reauthorizations for the DERA program have been introduced in recent Congresses. In the 116th Congress, Section 6083 of Division E, Title LX, Subtitle G, in S. 4049, the National Defense Authorization Act for Fiscal Year 2021, as passed by the Senate July 23, 2020, would reauthorize the DERA program through FY2024, incorporating the language contained in S. 747 as reported May 13, 2019. As in S. 747, S. 4049, would also modify certain requirements governing how EPA must prioritize projects and would require the unqualified state funds to be reallocated to the national program. H.R. 1768, passed by the House September 9, 2019, would also reauthorize the DERA program through FY2024 but would not modify these requirements as in S. 747 and S. 4049.

Division S, Section 101, of the Consolidated Appropriations Act, 2021 (P.L. 116-260), reauthorized the DERA program through 2024, with no other changes.

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